

Bulletin

Test and Tag of electrical equipment

This information bulletin provides a guide to a person conducting a business or undertaking (PCBU) in respect of their duty to manage electrical risks in the workplace under the *Work Health and Safety (National Uniform Legislation) Act* and Regulations particularly through the testing and tagging of electrical equipment.

Managing risks to health and safety associated with electrical risks

Regulation 147 requires a PCBU to manage the risks to health and safety associated with electrical risks at the workplace in accordance with Part 3.1. This requires a PCBU to consider the management of risks associated with electrical equipment which may include maintenance and testing of such equipment. For more information on the risk management approach required by Part 3.1, see the Code of Practice – *How to Manage Health and Safety Risks*.

Inspecting and Testing electrical equipment

Inspecting and testing electrical equipment will assist in determining whether it is electrically safe and may be one of the approaches taken to manage the health and safety risks required in Regulation 147. A tag is one way to record inspection and testing of electrical equipment.

Not all electrical items need to be inspected and tested.

The nature and frequency of inspection and testing will vary depending on the nature of the workplace and the risks associated with the electrical equipment.

Regular visual inspection can identify obvious damage, wear or other conditions that might make electrical equipment unsafe. Many electrical defects are detectable by visual inspection.

Regular testing can detect electrical faults and deterioration that cannot be detected by visual inspection.

Inspection and testing of electrical equipment may involve, in part:

- looking for obvious damage, defects or modifications to the electrical equipment, including accessories, connectors, plugs or cord extension sockets
- looking for discolouration that may indicate exposure to excessive heat, chemicals or moisture
- checking the integrity of protective earth and insulation resistance
- checking that flexible cords are effectively anchored to equipment, plugs, connectors and cord extension sockets
- looking for damage to flexible cords
- checking that operating controls are in good working order i.e. they are secure, aligned and appropriately identified
- checking that covers, guards, etc. are secured and working in the manner intended by the manufacturer or supplier
- checking that ventilation inlets and exhausts are unobstructed
- checking that the current rating of the plug matches the current rating of the associated electrical equipment.

Electrical equipment should be tested:

- after a repair or servicing that could affect the electrical safety of the equipment (i.e. undertaken by the person carrying out the repair or servicing before return to service)
- before its first use if bought second-hand.

In this information bulletin a reference to 'inspection' or 'testing' excludes repair of electrical equipment.

Lower risk environments

Lower-risk environments include those workplaces that are dry, clean, well-organised and free of conditions that are likely to result in damage to electrical equipment, for example an office, retail shop, telecommunications centre, classroom, etc. Electrical equipment commonly used in these types of lower-risk workplaces includes computers, photocopiers, stationery or fixed electrical equipment.

There is no mandated inspection and testing or tagging for electrical equipment used in lower-risk operating environments.

However a PCBU may incorporate inspection and testing of electrical equipment in low risk operating environments as part of their overall risk management approach. A PCBU may also consider the manufacturer's recommendations as to the frequency of inspection and testing.

New equipment

Brand-new electrical equipment that has never been put into use (i.e. other than second-hand equipment) does not have to be tested before first use.

Brand-new electrical equipment, however, should still be visually inspected to ensure that no damage occurred during transport, delivery, installation or commissioning.

If the electrical equipment is required to be tested regularly for safety, take the necessary steps to ensure that it does not miss its first required test.

The date the electrical equipment was placed into service should be recorded (e.g. on the record of installation or elsewhere). The electrical equipment may also be fitted with a tag stating:

- that the equipment is 'new to service'
- the date of entry into service
- the date when the first electrical safety test is due
- that the equipment has not been tested.

Fitting a 'new to service' tag is an administrative task that can be carried out by an appropriately trained in-house person.

Alternatively, a different system may be put into place to ensure the electrical equipment is properly inspected and tested as required (e.g. the new electrical equipment can be included in the next round of electrical testing carried out at the workplace).

Specified higher-risk operating environments other than Construction or Demolition sites

Regulation 150 (1) A person conducting a business or undertaking with management or control of electrical equipment must ensure that the electrical equipment is regularly inspected and tested by a competent person if the electrical equipment is:

- supplied with electricity through an electrical socket outlet ('plug in' equipment), and
- used in an environment in which its normal use exposes the equipment to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span.

This includes conditions that involve exposing the electrical equipment to moisture, heat, vibration, mechanical damage, corrosive chemicals or dust.

You must ensure, so far as is reasonably practicable, that electrical equipment is not used if the equipment is required to be tested under these requirements but has not been tested. Possible actions may include the storing of equipment in locked areas to prevent use or the use of 'lock out' labels and tags.

Inspection and testing requirements apply in relation to:

- certain higher-risk workplaces in which electrical equipment is exposed to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span
- construction and demolition sites.

These operating environments have the potential to seriously affect the safe operation of electrical equipment. This includes conditions that involve exposing the electrical equipment to moisture, heat, vibration, mechanical damage, corrosive chemicals and dust. Examples include wet or dusty areas, outdoors, workplaces that use corrosive substances, commercial kitchens and manufacturing environments.

A risk assessment can help determine whether electrical equipment is being used in any of these operating environments at a particular workplace.

As a general rule electrical equipment used in the specified higher-risk operating environments should be tested at least once every 12 months. More frequent testing may be required, for example in relation to:

- electrical equipment used in manufacturing and workshop environments (e.g. every 6 months)
- commercial cleaning equipment (e.g. every 6 months)
- hire equipment (e.g. every 3 months).

Hire equipment

Persons conducting a business or undertaking hiring out electrical equipment must ensure the equipment is inspected at the commencement of each hire and tested every three months.

The person conducting a business or undertaking using the electrical equipment hired out must ensure that, for the period of the hire, the equipment meets all applicable inspection and testing requirements under the WHS (NUL) Regulations.

Recording results of testing

Regulation 150 (4) A record of testing must be kept until the electrical equipment is next tested, permanently removed from the workplace or disposed of. A record of testing must specify the following:

- the name of the person who carried out the testing
- the date of the testing
- the outcome of the testing, and
- the date on which the next testing must be carried out.

The record may be in the form of a tag attached to the electrical equipment tested.

Log Book or other Similar Form of Record

The record of testing may take the form of a log book, database, register or a similar kind of record, or a tag. Log books and similar records have the advantage of:

- ensuring there is a permanent record of inspection and testing (for example, as a backup if tags are damaged or removed)
- facilitating internal audit
- allowing more detailed information to be recorded.

Tag

If the record of testing is a tag, it should be durable, water resistant, non-metallic, self-adhesive or well-secured, incapable of re-use and have a bright, distinctive surface.

The tag may also be colour-coded to identify the month in which the testing was carried out.

A tag may not include all of the required information. In that case, the rest of the required information must be recorded elsewhere and kept for the relevant period of time.

If a tag is not used you should ensure that tested electrical equipment is marked or labelled so that records of testing can clearly identify the relevant equipment.

Competent Person to undertake Inspection and Testing

The information bulletin *Competent Persons* provides information on the competency requirements for those carrying out inspection and testing of electrical equipment.

Contact us

For further information please contact us on 1800 019 115, via email at ntworksafe@nt.gov.au or go to the NT WorkSafe website at www.worksafe.nt.gov.au